



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,464	07/13/2001	Weldon Mark Hanson	ROC920000217US1 504.51US0	4384
7590	03/11/2004		EXAMINER	
IBM Corporation Intellectual Property Law Dept. 917 3605 Hwy. 52 North Rochester,, MN 55901			CHASE, SHELLY A	
			ART UNIT	PAPER NUMBER
			2133	
DATE MAILED: 03/11/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary	Application No.	Applicant(s)
	09/905,464	HANSON, WELDON MARK
Examiner	Art Unit	
Shelly A Chase	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 July 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 11-32 is/are allowed.
- 6) Claim(s) 1-5,9 and 10 is/are rejected.
- 7) Claim(s) 6-8 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

1. Claims 1 to 32 are presented for examination.

Information Disclosure Statement

2. The references listed in the information disclosure statement submitted on 1-4-2002 have been considered by examiner (see attached PTO-1449).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 is indefinite because the limitation "non-provision of error detection" is unclear.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims **1 to 5, 9 and 10** are rejected under 35 U.S.C. 102(e) as being anticipated by Turk et al. (USP 6505320 B1).

Claim 1:

Turk discloses a sampled amplitude read channel for writing data to and reading data from a disk comprising: an encoder [40] encoding the first part of the data block using a code rate of 64/65 ("first coding constraint") wherein the data block is 516 bytes and the encoded data block is 4160 bits that are stored on the disk storage medium [22] (see col. 5, line 55 to col. 6, line 13). Turk also discloses in an alternative embodiment that the first channel encoder [40] is programmable which eliminates the need for padding and the second channel encoder [46] encodes the last of the data block with a second coding rate 24/25 ("second coding constraint") wherein padding is not needed to encode the last data block (see col. 6, lines 39 to 56).

Turk teaches decoder [58] decoding the first data block received from the storage medium according to an inverse operation of the channel encoder with the first coding rate (see col. 6, lines 57 to 65) and a second channel decoder [52] decoding the last

data block implementing the inverse of the second channel encoder [46] (see 5, lines 35 to 40).

As per claims **2** and **3**, Turk teaches adjusting the code rate for different values of N and the first coding rate is 64/65 while the second coding rate is different from the first coding rate with a rate of 24/25 (see col. 6, lines 39 to 56).

As per claims **4** and **5**, Turk teaches the coding rate is adjusted based on the number of bytes in the data block (see col. 6, lines 39 et seq.), and the second coding rate is based on the number of bits in the last data block (see col. 6, lines 22 et seq.).

As per claims **9** and **10**, Turk teaches encoding the remaining data bits using an ECC redundancy encoder (see col. 5, lines 15 to 23).

Allowable Subject Matter

7. Claims 6 to 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record teaches a method for transferring data between a sample amplitude read channel and a disk storage medium as detailed above; however, the prior art of record fail to teach or fairly suggest a method of transferring data between a read/write transducer coupled to a data channel and a data storage medium comprising discontinuing use of the first coding constraint in response to detecting the start of the

last data block as recited in dependent claim 6. Claims 7 and 8 are directly dependent on claim 6 thus, these claims are allowable over the prior art made of record.

9. Claims 11 to 32 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior arts of record teach a method and an apparatus for encoding and decoding data stored on a storage medium for instance, Kim (USP 6072410), discloses a coding /decoding apparatus comprising an encoder encoding the received data according to an RLL coding rate and decoding according to an RLL coding rate, Zook (USP 6516443 B1), a sampled amplitude read channel including an encoder encoding the received data according to an RLL coding constraint and a decoder decoding the stored data.

However, the prior arts made of record taken alone or in combination fail to teach or fairly suggest the novel elements of the instant invention as recited in claims 11 and 22. The prior art of record fail to teach or fairly suggest an apparatus for processing information transferred between a read/write transducer coupled to a data channel and a data storage medium, the apparatus comprising: the encoder encoding the last data block according to a second coding constraint for storage on the data storage medium such that no pad bytes are required to complete encoding of the last data block. Claims 12 to 21 and 23 to 32 are directly or indirectly dependent or indirectly dependent on claims 11 and 22, thus these claims are allowable over the prior art made of record.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelly A Chase whose telephone number is 703-308-7246. The examiner can normally be reached on Mon-Thur from 8:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decay can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shelly A Chase